FRIDMAN, G. Ya.; SUKHODROVSKAYA, K. A.; LAKOMSKAYA, G. V.; KARAVAYEV, N. M.

Coal carbonization during heating in the presence of water under pressure. Trudy IGI 17:76-87 '62. (MIRA 15:10)

(Coal—Carbonization) (Water vapor)

S/079/63/033/003/004/005
A066/A126

AUTHORS: Losev, V.B., Fridman, G.Ye.

TITLE: Synthesis of organo-(2-chloroethoxy)silanes

PERIODICAL: Zhurnal obshchey khimii, v. 33, no. 3, 1963, 905 - 906

TEXT: This is a description of the synthesis of five hitherto unknown organo-(2-chloroethoxy)silanes. It has been established that in the absence of a solvent the ethylene oxide reacts with the organochlorosilanes even without heating, the reaction mass being heated considerably. The following compounds were obtained: methylphenyldi(2-chloroethoxy)silane, allyltri(2-chloroethoxy)silane, (chloromethyl)methylphenyl(2-chloroethoxy)silane, (chlorophenyl)tri(2-chloroethoxy)silane, (dichlorophenyl)tri(2-chloroethoxy)silane, and (dichloromethyl)dimethyl(2-chloroethoxy)silane. All the compounds are transparent liquids with an ethereal odor and soluble in aromatic hydrocarbons.

SUBMITTED: April 16, 1962

Card 1/1

KOSUL'NIKOV, R.M., inzh.; KIRVALIDZE, N.S., inzh.; YAKIMENKO, N.S., inzh.; FRIDMAN, G.Ye., inzh.; KOVALEV, R.G., inzh.

Eliminating high wall thickness variations in steel tube extrusion on vertical mechanical presses. Stal' 25 no.2, 147-146 F '65. (MIRA 18:3)

1. Nikopol'skiy Yuzhnotrubnyy zavod.

Name : FRIDMAN, I.

Title : Engineer

Remarks: Fridman is one of the authors of the articles appearing in "Flight to the Moon", Moskva, 1955, portraying a fictitious flight to the moon.

Source : M: Polet na Lunu (Flight to the Moon), by various authors, Moskva, 1955

30822. FRIDMAN, I.

Skhemy dvukhstoperchatogo szhatiya. Kholodil. tekhnika, 1949, No. 3, s. 29-33.

FRIDMAN, I., kandidat tekhnicheskikh nauk.

How do you install an oil separator so as to wash gases?
Khol.tekh.31 no.1:74-75 Ja-Mr '54. (MLRA 7:4)
(Refrigeration and refrigerating machinery)

FRIDMAN, I.

Increase production of "kamyshit", building material made of reeds. Prom.koop. no.3:13-18 Mr '55. (MLRA 8:11)

1. Zamestitel' nachal'nika upravleniya promyshlennosti stroitel' nykh materialov Rospromsoveta
(Building materials)

FRIDMAN, I., inzhener; ZVOZSKOV, B., inzhener.

An automatic truck tilter. Avt.transp. 33 no.3:33 Mr '55.
(Motor trucks) (MLRA 8:5)

FRIDMAN, I.

Mobile brickyard. Prom.koop. no.10:18-19 O '56. (MLRA 9:11)

1. Zamestitel' nachal'nika upravleniya promyshlennosti stroitel'nykh materialov Rospromsoveta.
(Brickmaking)

FRIDMAN, I.

For all-year work of brick factories. Prom. koop. 12 no.3:30-31 Mr '58. (MIRA 11:3)

1. Zamestitel' nachal'nika Upravleniya stroitel'nykh materialov Rostpromsoveta.

(Brick industry)

FRIDMAN, I.A.

Three cases of infectious lymphocytosis in children who had scarlet fever. Pediatriia no.2: 62-63 Mr-Ap '53. (MLRA 6:5)

1. Moskovskaya gorodskaya detskaya bol'nitsa. (Scarlatina) (Blood--Diseases)

TOMA, I., dr.; CONSTANTINESCU, L., dr.; FRIEMAN, I., dr.; POTOLINCA, V., dr. HARASIM, D., dr.

Acute poisoning with an insecto-fungicide in children (considered in relation to 6 clinical cases). Pediatria (Bucur.) 13 no.6:545-549 N-D '64

1. Lucrare efectuata in Sectia de pediatrie a Spitalului raional Falticeni (medic sef de sectie: dr. L. Constantinescu).

FRIDMAN, I.A. (Leningrad)

Cardiovascular diseases in pregnancy and labor. Fel'd. i akush. 23 no.8:7-11 Ag '58 (MIRA 11:8)
(CARDIOVASCULAR SYSTEM--DISEASES)
(PREGNANCY, COMLICATIONS OF)
(LABOR, COMPLICATED)

FRIDMAN, I.A. (Leningrad)

Grigorii L'vovich Grauerman on the 100th anniversary of his birth. Fel'd. i akush. 26 no.7:48-50 Jl '61. (MIRA 14:7)
(GRAUERMAN, GRIGORII L'VOVICH, 1861-1921)

FRIDMAN, I.A. (Leningrad)

Nikolai Ivanovich Pobedinskii (1861-1923). Fel'd. i akush. 27 no.1:41-44 Ja '62. (MIRA 15:3)
(POBEDINSKII, NIKOLAI IVANOVICH, 1861-1923)

FRIDMAN, I. A., kand. med. nauk (Leningrad)

Organizing control of cervix uteri cancer in a rural region through cytologic diagnosis. Fel'd. i akush. 27 no.5:32-36 My '62. (MIRA 15:7)

(UTERUS--CANCER) (DIAGNOSIS CYTOLOGIC)

FRIDMAN, I.A., kand.med.nauk (Leningrad)

Extrauterine pregnancy. Fel'd.i akush. 27 no.7:7-12 Jl '62. (MIRA 15:9)

(PREGNANCY, EXTRAUTERINE)

FRIDMAN, I.A., kand.med.nauk (Leningrad)

Cytological diagnosis of cancer of the cervix uteri. Fel'd. i akush. 27 no.9:25-28 S'62. (MIRA 16:8)
(UTERUS—CANCER)

FRIDMAN, I.A. (Leningrad, ul. Dekabristov, d.13, kv.33)

Results of preventive examination of women living in rural areas using cytological tests. Vop. onk. 10 no.9:98-102 '64.
(MIRA 18:4)

1. Iz Roshchinskoy kustovoy bol'nitsy Vyborgskogo rayona Leningradskoy oblasti (glavnyy vrach bol'nitsy - R.S.Aronova, glavnyy akusher-ginekolog Leningradskoy oblasti - zasluzhennyy vrach RSFSR P.A.Sokolov, glavnyy onkolog Leningradskoy oblasti L.N.Akinchev).

1. FRIDMAN, I. B. Docent; GUTMAN, L. I.
2. USSR (600)
4. Influenza
7. Functional state of the liver in grippe, Medych. zhur., 22, no. 1, 1952.

9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

FRIDMAN, I. D.

SOV/137-58-8-18095

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 269 (USSR)

AUTHOR: Fridman, I. D.

TITLE: Application of Ion-exchange Resins in the Determination of Gold in Lean Products of Gold-recovery Plants (Primeneniye ionoobmennykh smol pri opredelenii zolota v bednykh produktakh zolotoizvlekatel'nykh fabrik)

PERIODICAL: V sb.: Materialy Soveshchaniya po primeneniyu ionnogo obmena v tsvetn. metallurgii. Moscow, 1957, pp 88-90

ABSTRACT: The complex anion $Au(CN)_2$ is concentrated on AN-2F and EDE-10 ionites (in the state of a chloride salt) at 3 - 6 or 8 - 10 pH. Au concentrated on the resin is determined by assaying with the aid of fusion in a crucible. The method permits determination of Au in waste solutions at a concentration of 0.04 - 0.07 g/m^3.

1. Gold ores--Processing 2. Gold--Determination
3. Ion exchange resins--Applications

P. K.

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SOV/137-58-9-20281

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 9, p 309 (USSR)

AUTHORS: Fridman, I.D., Kuznetsova, L.N., Popova, N.N.

TITLE: Utilization of Radioactive Isotopes in Assaying (Primeneniye radioaktivnykh izotopov v probirnom analize)

PERIODICAL: Tr. N.-i. gornorazved. in-ta "Nigrizoloto", 1957, Nr 23, pp 112-115

ABSTRACT: Preliminary experiments with the utilization of the radioactive isotope of Au were carried out for the determination of losses in slags during the smelting of the tailings of the cyanidation of Au ores. An initial $KAu(CN)_2$ solution of specified concentration was prepared. Weighed test samples of pure quartz were placed in porcelain cups and covered with the solution with which a measured amount of Au was introduced for every experiment. The test samples were dried on a water bath, mixed with fluxes, and melted. The results of the fluxing were determined by the (Au) in the slags by the method of measuring the activity in impulses without recalculating into mg. The results of the experiments conducted have shown that the lowest losses of Au in slags occur in the case of fluxing

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SOV/137-58-9-20281

Utilization of Radioactive Isotopes in Assaying

with Na_2S followed by washing of the slag with Pb and of fluxing to obtain a Cu regulus. Also checked by the process indicated were the various methods of preparation of the mixture with unequal amounts of litharge and various screen sizes of the test sample. The losses of Au in the process of cupellation owing to the absorption of Au by the cupel were likewise ascertained.

1. Ores---Analysis 2. Radioisotopes---Applications

Yu.B.

Card 2/2

FRIDMAN, I. D.

137-58-5-11205

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 5, p 329 (USSR)

AUTHOR: Fridman, I. D.

TITLE: An Investigation of Certain Aspects of Cupellation Employing Radioactive Isotopes as Tracers (Issledovaniye nekotorykh voprosov probirnogo analiza s primeneniyem radioaktivnykh izotopov v kachestve indikatorov)

PERIODICAL: Tr. n.-i. gornorazved. in-ta "Nigrizoloto", 1957, Nr 24, pp 151-154

ABSTRACT: Investigations were carried out in order to determine how the quality of cupels (C) affects losses in noble metals, losses which arise from the fact that small quantities of these metals remain in the C's in the course of the cupellation analysis. In testing the C's by the "tagged-atoms' method, isotopes Ag^{110} and Au^{198} were employed. As a result of the investigations it was established that Ag losses in a cement C were greater than in C's made of magnesite or bone ash. Smallest losses of Ag were observed in magnesite-cement C's containing 15% cement, in magnesite C's made with water glass, and in C's made of finely ground materials composed of 95% of particles of -10 mesh and 5% of particles ranging from -65 to +100 mesh. V.N.

Card 1/1

1. Laboratory equipment--Analysis 2. Isotopes (Radioactive)--Applications

AUTHOR: Fridman, I.D. SOV/149-58-5-9/18

TITLE: The Radioactive Tracer Technique as a Method of Investigating the Effect of the Cupel Characteristics on Silver Losses During the Cupellation Process (Issledovaniye vliyaniya kachestva kapeley na poteri serebra v protsesse kupelirovaniya s primeneniyem radioaktivnykh izotopov kak indikatorov)

PERIODICAL: Izvestiya Vysshikh Uchebnykh Zavedeniy, Tsvetnaya Metallurgiya, 1958, Nr 5, pp 81 - 89 + 1 plate (USSR)

ABSTRACT: Losses of gold and silver during cupellation are caused by absorption of these metals by the cupel, this factor being responsible for more than 90% of the total losses and by volatilisation. The magnitude of these losses, which are particularly high in the case of silver, depends on the furnace temperature, location of the cupel (so-called topographical factor), the composition of crude lead and the shape and composition of the cupel. The object of the present investigations was to study the effect of the last of these factors, the effect of the other factors having been studied by other workers (Refs 1-4). The standard method of determining the total losses of

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losses. In the first method the intensity of radiation of the test button before and after cupellation was compared. Since there was a possibility that the altered shape and decreased size of the button after cupellation might affect the accuracy of the results, the suitability of this method was checked by a series of experiments in which the radiation intensity measurements were carried out on equal volumes of nitric acid solutions of the test buttons before and after cupellation, the solutions being contained in specially designed molybdenum glass vessels. Since the results obtained by these two methods were almost identical (see Table 1), the first, more simple, method was used in subsequent experiments.
However, only the relative losses of silver in the assay button could be determined by this manner and a different technique had to be used to determine the absolute quantity of silver absorbed by the cupel. To this end a calibration curve was first obtained (Figure 2) showing the relationship

between the radiation intensity (in impulses/min) of standard solutions and their silver content (in mg). Similar calibration curves were obtained for cupels made of cement (Figure 3) and magnesite (Figure 4) that had been treated with equal volumes of nitric acid solutions containing various quantities of silver.

In the first series of experiments the effect of composition of the cupel material on the silver losses was investigated. The test cupels of constant shape and dimensions (23 mm diameter, 20 mm high, 8 mm depth of the cup) were made of the following materials: Portland cement grade 400, 500 and 600 (89% -200 mesh), magnesite (100% -150 mesh), bone ash (52% -150 mesh, 1% + 45 mesh) and various mixtures of these substances. The water content of the mixtures was 10% and the pressings were kept for 1 month in dry storage before testing. The results are reproduced in Table 2 showing both the true losses as determined by the radioactive tracer technique and those determined by the standard,

The Radioactive Tracer Technique as a Method of Investigating the Effect of the Cupel Characteristics

gravimetric method. The results of tests carried out on specimens of cupels used in various industrial establishments are presented in the same manner in Table 3.

In the next stage of the investigation, the effect of the particle size of the cupel material and the shape and dimensions of the cup were studied. Finally, the quantity of silver absorbed by cupels made of various materials and with various depths of the cup were determined, the results being reproduced in Table 4 in terms of the radiation intensity of the test cupels. The general conclusions can be summarised as follows:

i) to secure minimum silver losses, cupels made of magnesite brick or metallurgical magnesite powder should be used;

ii) the mixture should contain not less than 95% of particles smaller than -100 mesh and the moisture content should not exceed 9-10% ;

Card5/7 iii) the following cupel dimensions are recommended:

FRIDMAN, I.D.; SHCHETKINA, Yo.D.; ZAKHAROVA, Ye.S.; PUSHKARSKIY, S.M.

Techniques of producing high-grade weighting materials from pyrite cinders. Trudy AzNII DN no.10:358-375 '60. (MIRA 14:4)
(Oil well drilling fluids)

FRIDMAN, I.D.

Investigating causes for the high loss of silver and gold on cement cupels. Izv. vys. ucheb. zav.; tsvet. met. 3 no. 6:87-94 '60. (MIRA 14:1)

1. TSentral'nyy nauchno-issledovatel'skiy gornorazvedochnyy institut.
(Precious metals--Metallurgy)

S/137/62/000/012/080/085
A006/A101

AUTHOR: Fridman, I. D.

TITLE: Improvement of former and development of new test analysis methods

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 12, 1962, 10 - 11, abstract 12K61 ("Tr. Tsentr. n.-i. gornorazved. in-ta", 1962, no. 47, 134 - 139)

TEXT: New simple and rapid methods were developed to control individual operations in test analysis. The distribution of noble metal losses was studied with the use of radioactive isotopes as tracers. With the use of Au^{198} and Ag^{110} cupellation was investigated. The analyses show that metal losses during suction, independent of the cupel material, are always main ones and amount to 91 - 95% in magnesite cupels and 96.5 - 98.7% in cement cupels. The only suitable material for cupel manufacture was found to be magnesite containing $\geq 85\%$ of 100-mesh-class, of which 63% - 200 mesh. A method was developed for preparing test samples; the effect of the mechanical treatment of regulus upon the results of Au determination was studied. The Au^{198} was used to verify various

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test heats of waste products from Au-extraction plants. It was established that least Au-losses with the slag were assured in melting the cake after processing the sample with Na_2S and in melting for Cu-regulus (with 15 g CuO), if one portion of the collecting and reducing agents was added in dissolved state during the preparation of the charge. To determine Au losses with discarded solutions, and dissolved Au in cyanidation tails, ion-exchange methods were developed.

L. Vorob'yeva

[Abstracter's note: Complete translation]

S/137/63/000/001/005/019
A006/A101

AUTHORS: Yudina, I. N., Fridman, I. D.

TITLE: Extraction of zirconium from solutions by the ion-exchange method

PERIODICAL: Referativnyy zhurnal, Metallurgiya, no. 1, 1963, 19, abstract 1G126 ("Tr. Tsentr. n.-i. gornorazved. in-ta", 1960, no. 36, 141 - 147)

TEXT: Experiments were made on the extraction and refining of Zr from operational sulfuric-acid solutions, using the ion-exchange method on ЭДЭ -10 (EDE-10) anionite in Cl-form, and from hydrochloric-acid solutions on КУ-2 (KU-2) grade cationite. On the basis of comparing the results obtained, it is recommended to separate Zr out of hydrochloric acid solutions on KU-2 grade cationite. This method makes it possible to attain rapidly and harmlessly high Zr-extraction out of solutions (98%) and to obtain ZrO_2, free of Fe and Ti(Hf), containing > 98% ZrO_2.

G. Svodtseva

[Abstracter's note: Complete translation]

Card 1/1

SHCHETKINA, Ye.D.; ZAKHAROVA, Ye.S.; MARTYNOVA, N.G.; FRIDMAN, I.D.

New type of an iron weighting agent. Sbor. nauch.-tekh. inform. Azerb. inst. nauch.-tekh. inform. Ser. Neft. prom. no.6:45-61 '63. (MIRA 18:9)

FRIDMAN, I.D.; SHCHETKINA, Ye.D.; MAMEDOV, G.M.

Crushing Dashkesan ores to be used in the production of weighting materials. Sbor. nauch.-tekh. inform. Azerb. inst. nauch.-tekh. inform. Ser. Neft. prom. no.6:61-68 '63. (MIRA 18:9)

SHCHETINA, Ye.D.;

Permissible content of finely dispersed fractions in barite.
Burenie no.4:18-20 '64. (MIRA 18:5)

1. AzNIIburneft'.

FRIDMAN, I.D.; SHCHEGLOVA, Ye.D.; PIGROV, V.M.

Effect of weighting material on the electrical resistivity of clay mud. Neft. khoz. 42 no.8:20-24 Ag '63.
(MIRA 17:9)

FRIDMAN, I. D.

"Investigation of Critical Revolutions in the Diesel Installations of the Oil Tankers Stalin and Zhdanov." Cand Tech Sci, Azerbaydzhan Order of Labor Red Banner Industrial Inst imeni M. Azizbekov, Min Higher Education USSR, Baku, 1955. (KL, No 17, Apr 55)

SO: Sum. No. 704, 2 Nov 55 - Survey of Scientific and Technical Dissertations Defended at USSR Higher Educational Institutions (16).

FRIDMAN, I.D.; SHCHETKINA, Ye.D.

Methods used by the Groznyy Scientific Research Institute for determining the grade of weighting compounds. Azerb.neft.khoz. 35 no.11:16-18 N '56. (MLRA 10:4)
(Oil well drilling fluids)

FRIDMAN, I.D.

SHCHETKINA, Ye.D.; FRIDMAN, I.D.

Improving the quality of weighted materials obtained from blast furnace dust concentrate. Azerb. neft. khoz. 36 no.12:13-16 D '57. (MIRA 11:?)

(Oil well drilling fluids)

FRIDMAN, I.D., kand.tekhn.nauk; MAMEDOV, G.M., inzh.; SHCHETKINA, Ye.D., inzh.; ZUSMAN, Ye.Ye., inzh.

Using pyrite cinders as a raw material for the production of weighted material. Trudy AzNII DN no.5:162-179 '57. (MIRA 12:4)

(Oil well drilling)

FRIDMAN, I.D.; MAMEDOV, G.M.; SHCHETKINA, Ye.D.

Using Dashkesan iron ores and their concentrates as a raw material in the production of weighting agents. Azerb.neft. khoz. 37 no.8:17-20 Ag '58. (MIRA 11:11)

(Iron ores)

FRIDMAN, I.D.; BALAYAN, L.I.; SHCHETKINA, Ye.D.

Production and use of humic powders. Azerb. neft. khoz. 38 no.8: 18-21 Ag '59. (MIRA 13:2)
(Chemical tests and reagents)
(Oil well drilling fluids)

SHCHETKINA, Ye.D.; FRIDMAN, I.D.; POKIDIN, A.K.

Using the thermographic method for studying the quality of weighting agents. Neft.khoz. 38 no.5:28-33 My '60. (MIRA 13:8)
(Oil well drilling fluids)

FRIDMAN, I.D.; KUZNETSOVA, L.N.; SEREBRYANYY, B.L.

Effect of iron and thiocyanates on the purification process of waste waters in gold recovery plants by the ion exchange method. Zhur. prikl. khim. 38 no.3:482-487 Mr '65.
(MIRA 18:11)

1. Submitted April 29, 1963.

KALINOVSKIY, V. P. : FRIDMAN, I. I.

Lumbering - Irbit District

Automotive haulage of full length logs in the Irbit lumber camp. Les. prom. 11 no. 7, 1951.

9. Monthly List of Russian Accessions, Library of Congress, December, 1952 1953. Unclassified.

KOZLOV, P.V.; FRIDMAN, I.M.

Physical and mechanical properties of multilayer films. Trudy NIKFI no.7:184-190 '47. (MIRA 11:6)

1. Laboratoriya restavratsii i konservatsii kinofil'mov Nauchno-issledovatel'skogo kino-foto-instituta, Moskva.
(Cinematography--Films)

FRIDMAN, Isidor Mironovich; ZHERDETSKAYA, N.N., redaktor; MATISSEN, Z.M., tekhnicheskiy redaktor.

[Microfilming] Mikrofoto-kopirovanie. Moskva, Gos. izd-vo "Iskusstvo", 1955. 214 p. (MLRA 9:6)
(Microphotography)

FRIDMAN, I.M.

Stability of color-photographic images composed of the dyes of color development. I. I. Levkoev, I. M. Fridman, V. S. Chel'tsov, and V. T. Shcherstov. *Zhur. Nauch. Fot., Akad. Nauk S.S.S.R., Otdel. Khim. Nauk* 4, 316-26 (1955); cf. Hornsby, *Brit. J. Phot.* No. 4855, 218(1953).—Dye images formed in color positive film were kept 3 years at ordinary temps. and humidities, in the light and in the dark. The optical ds. of the magenta (*M*), yellow (*Y*), and cyan (*C*) images in complementary light were measured. The ratios of the observed ds. to the corresponding initial values (D/D_0) are graphed. The films kept in the light were almost completely bleached; for those kept in the dark one year, D/D_0 was 88, 73, and 78% for *M*, *Y*, and *C*, resp. After 3 years, the corresponding values of D/D_0 were 87, 70, and 64%. The later increase in d. of the yellow image is ascribed to conversion of some of the cyan dye to brownish yellow substances. Similar color transparencies were kept in O at 20 atm. pressure (I), *in vacuo*, and in N for various times. Results are tabulated. The value of D/D_0 for *C* decreased to 95% after 4 months in I, 87% after 12 months in air, 65% after 12 months in N, and 3% after 12 months in air at 30°; that for (*M* + *Y*) in blue light was 93% after 4 months in air and 114% after 4 months in I; that for (*M* + *Y*) after 12 months in air at 30° (relative humidity 65%) was 107% in blue light and 91% in green; that for (*M* + *Y*) after 12 months in air at 3° was 84% in blue light and 86% in green. The loss of d. was about the same for blue with acetate free as for that with nitrate

Shcherbakov, V. I.
Levkoev, I.; Freedman, I. M.; Chelitsov, V. S.;

base. In the presence of H_2SO_4 (0.05 g./sq. m.) values of D/D_0 for P, M, and C left in 3 years to 55, 55, and 50%, resp. In the same way the stability was detd. of cyan images formed with such nondiffusing components as 1-hydroxy-4-sulfo-2-naphthoic acid octadecylamide (II), 1-hydroxy-2-naphthoic acid octadecyl-3,5-dicarboxyphenylamide (III), 1-hydroxy-4-sulfo-2 naphthoic acid octadecyl-(naphthyl)amide (IV), and 1-hydroxy-2-naphthoic acid 2-(methyloctadecylamino)-5-sulfophenylamide (V). After 30 days at 70° (relative humidity 75%) graphed values of D/D_0 for II-V were 40, 50, 95, and 85%, resp. Values of D/D_0 were also detd. for images formed with the phenylamide (VI), the *o*-, *m*-, and *p*-aminophenylamides, the *o*-, *m*-, and *p*-acetamidophenylamides, the 1- and 2-naphthylamides, and the diphenylamide of 1-hydroxy-2-naphthoic acid. For images formed from VI with diethyl-*p*-phenylenediamine (VII) and diethyl-*p*-tolylenediamine (VIII) values of D/D_0 after 30 days under the given conditions were 95 and 45%, resp.; for images formed from 1-hydroxy-2-naphthoic acid octadecylamide with VII and VIII they were 60 and 35%, resp. J. W. Loweberg, Jr.

FRIDMAN, I.M., inzhener.

Turbines of the Volga giants. Nauka i zhizn' 22 no.10:31-34 O '55.
(Hydraulic turbines) (MLRA 9:1)

Fridman, I. M.

The dye stability in color images in multiple-dye color films. I. M. Fridman, K. F. Efremenko, L. A. Solov'eva, and M. M. Ilyinova. *Khim. Prom.* 1956, 253-6.—Effects of a no. of factors on the color fading of photographic images was investigated. The fading tendency differs for different dyes even in the dark, and especially in the presence of moisture, and is a combination oxidation-photolytic effect. α-Hydroxynaphthoic Blues are the least stable dyes used. New colored compds. are formed during the fading, and their formation rate is different for different dyes. These colored compds. are formed even when the fading is slight. The color during fading becomes displaced towards the red end of the spectrum. The new colored compds. can be formed by the oxidation of the dyes, of any residual developer, or from the dye-destruction products.

W. M. Sternberg

WAS

LFH

FRILMAN, I.M.

Photo Chem

11728* (Russian.) Physico-Chemical Properties of Triacetate Movie Film and Film Bases at Elevated Temperatures. Fiziko-mekhanicheskie svoistva triatsetatnoi kinopленki i osnovy pri povyshennykh temperaturakh. F. I. Shraiman, B. N. Korostyley, and I. M. Fridman. *Tekhnika Kino i Televidenita*, no. 2, Feb. 1957, p. 54-60.

Tear resistance of triacetate film materials decreases with rising temperature to a greater extent than that of film materials based on nitrocellulose.

67631

23.5000 SOV/81-59-14-50941

Translation from: Referativnyy zhurnal, Khimiya, 1959, Nr 14, pp 439 - 440 (USSR)

AUTHORS: Fridman, I.M., Zaborenko, K.B., Nekhlin, Ya.G.

TITLE: The Investigation of the Composition of Residual Substances in Photolayers of Processed Movie Films by Labeled Atoms

PERIODICAL: Tr. Vses. n.-i. kinofotoin-ta, 1958, Nr 3(26), pp 4 - 10

ABSTRACT: A method of radioactive indicators has been described for determining residual substances in processed movie films after fixation and bleaching. Two processes of treating movie films have been investigated which are of interest in relation to residual substances which are important in the regeneration of faded film copies. The regeneration of the color of the pictures is carried out by color development of the lower layer by a special color developer. It has been established by means of $Na_2S^{35}SO_3$ that under the conditions of the treatment of movie films by the accelerated method a considerable quantity of complex compounds of sodium and silver thiosulfate remains in the layer, which are distributed proportional to the density of the picture, mainly in the lower layer. The formation of complexes in the lower layer is caused by an insufficient

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SOV/81-59-14-50941

The Investigation of the Composition of Residual Substances in Photolayers of Processed Movie Films by Labeled Atoms

$Na_2S_2O_3$ content in the treatment by the accelerated method. In the films which are treated by two fixations a formation of complex compounds is not observed, which explains the practical impossibility of regenerating the color of film copies prepared by the method with two fixations and the good regeneration of the color of film copies treated by the accelerated method. It has been shown by means of labeled $K_3Fe(CN)_6$ that in the treatment of the layers by the method with two fixations as well as by the accelerated method residual silver ferrocyanide is not contained in the layers of the film. But the emulsion layers have the property of retaining $K_3Fe(CN)_6$ in quantities from 0.2 to 0.4 mg per 1 m of movie film.

G. Sennikov

Card 2/2

FRIDMAN, Isidor Mironovich; Prinimal uchastiye: TSUKERMAN, Ya.P.
PANFILOV, N.D., red.; MALEK, Z.N., tekhn.red.

[Use of motion-picture prints] Ekspluatatsiia fil'mokopii.
Moskva, Gos.izd-vo "Iskusstvo," 1959. 285 p. (MIRA 12:9)
(Motion-pictures)

MARKHILEVICH, K.I.; SHEBERSTOV, V.I.; KIRILLOV, N.I., prof., doktor tekhn.nauk; MASLENKOVA, N.G.; KOLOSOV, K.A.; MIKHAYLOV, V.Ya.; MATIYASEVICH, L.M.; FRIDMAN, I.M.; SPASOKUKOTSKIY, N.S.; KHAZAN, S.M.; DEYCHMEYSTER, M.V.; BLYUMBERG, I.B., dotsent, retsenzent; LYALIKOV, K.S., prof., doktor khim.nauk, retsenzent; TELESHEV, A.N., red.; MALEK, Z.N., tekhn.red.

[Present-day developments in photographic processes; processing of light sensitive materials and new processes for obtaining the photographic image] Sovremennoe razvitie fotograficheskikh protsessov; obrabotka svetochuvstvitel'nykh materialov i novye protsessy polucheniia fotograficheskogo izobrazheniia. Pod red. N.I.Kirillova. Moskva, Gos.izd-vo "Iskusstvo," 1960. 341 p. (MIRA 14:4)

1. Leningradskiy institut kinoinzhenerov (for Blyumberg).
(Photographic chemistry)

NITSKEVICH, Ye.A., dots.; KIREVSKIY, G.N., inzh., nauchnyy red.; FRIDMAN, I.M., inzh., nauchnyy red.; SAZANOV, B.V., dots., nauchnyy red.; YUSHKOV, S.B., inzh., nauchnyy red.; FILIP'YEV, O.V., kand. tekhn. nauk, nauchnyy red.; VESELKOV, N.G., inzh., nauchnyy red.; TARNAVSKIY, I.L., inzh., nauchnyy red.; IVANOVA, A.N., inzh., red.; ZABAZLAYEVA, E.I., red.; LANOVSKAYA, M.R., red. izd-va; DOBUZHINSKAYA, L.V., tekhn.red.

[Heat engineering]Teploenergetika [By]E.A.Nitskevich. Pod red. A.N.Ivanova. Moskva, Metallurgizdat, 1962. 348 p. (MIRA 16:2)

1. Moscow. TSentral'nyy institut informatsii chernoy metallurgii. (Metallurgical furnaces) (Power engineering)

NITSKEVICH, Yevgeniy Arkad'yevich; FRIDMAN, I.M., red.; LANOVSKAYA, M.R., red.izd-va; KARASEV, A.I., tekhn.red.

[Ferrous metallurgy of capitalist nations] Chernaia metallurgiia kapitalisticheskikh stran. Moskva, Gos.nauchno-tekhn.izd-vo lit-ry po chernoi i tsvetnoi metallurgii. Pt.10. [Heat engineering] Teploenergetika. 1960. 456 p. (MIRA 13:10)

1. Moscow. TSentral'nyy institut informatsii chernoy metallurgii. (Steel industry)

L 7891-66 EWT(m)/EWP(j)/T RM

ACC NR: AP5024959 SOURCE CODE: UR/0286/65/000/016/0021/0021

AUTHORS: Demin, M. N.; Velikiy, G. I.; Fridman, I. N.

ORG: none

TITLE: Method for producing nonwoven cloth. Class 8, No. 173707

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 16, 1965, 21

TOPIC TAGS: polyurethane, synthetic fiber, polymer, textile

ABSTRACT: This Author Certificate presents a method for producing nonwoven cloth from stiched or bound foam-polyurethane. To improve the quality of the cloth, the foam-polyurethane is glazed prior to stitching and mercerized after stitching.

SUB CODE: OC, MT SUBM DATE: 26May64

nw
Card 1/1

UDC: 677.862.352:677.494.664

FRIDMAN, I.R.

Installation for the creation of dry wind. Fiziol.rast. 6 no.6:751-753 N-D '59. (MIRA 13:4)

1. K.A.Timiriazev Institute of Plant Physiology, U.S.S.R. Academy of Sciences, Moscow.
(Botanical apparatus) (Plants, Effect of wind on)

FRIDMAN, I.R.; ISAKOV, N.A.

Vegetation chamber with electric illumination and temperatures slightly above freezing point. Fiziol. rast. 11 no.5:927-929 S-O '64. (MIRA 17:10)

1. Institut fiziologii rasteniy imeni Timiryazeva AN SSSR, Moskva.

ABELEV,Yu.M., professor; FRIDMAN,I.S., inzhener

Experience in building on filled groun. Stroi.prom.33 no.6:17-20 Je'55. (MLRA 8:10)

1. Nauchno-issledovatel'skiy institut osnovaniy i fundamentov (for Abelev) 2. Belorusskiy institut proyektirovaniya gorodov (for Fridman)

(Minsk--Stadiums) (Foundations)

FRIDMAN, I. V.

"The Kinetics of Deformation and Failure"

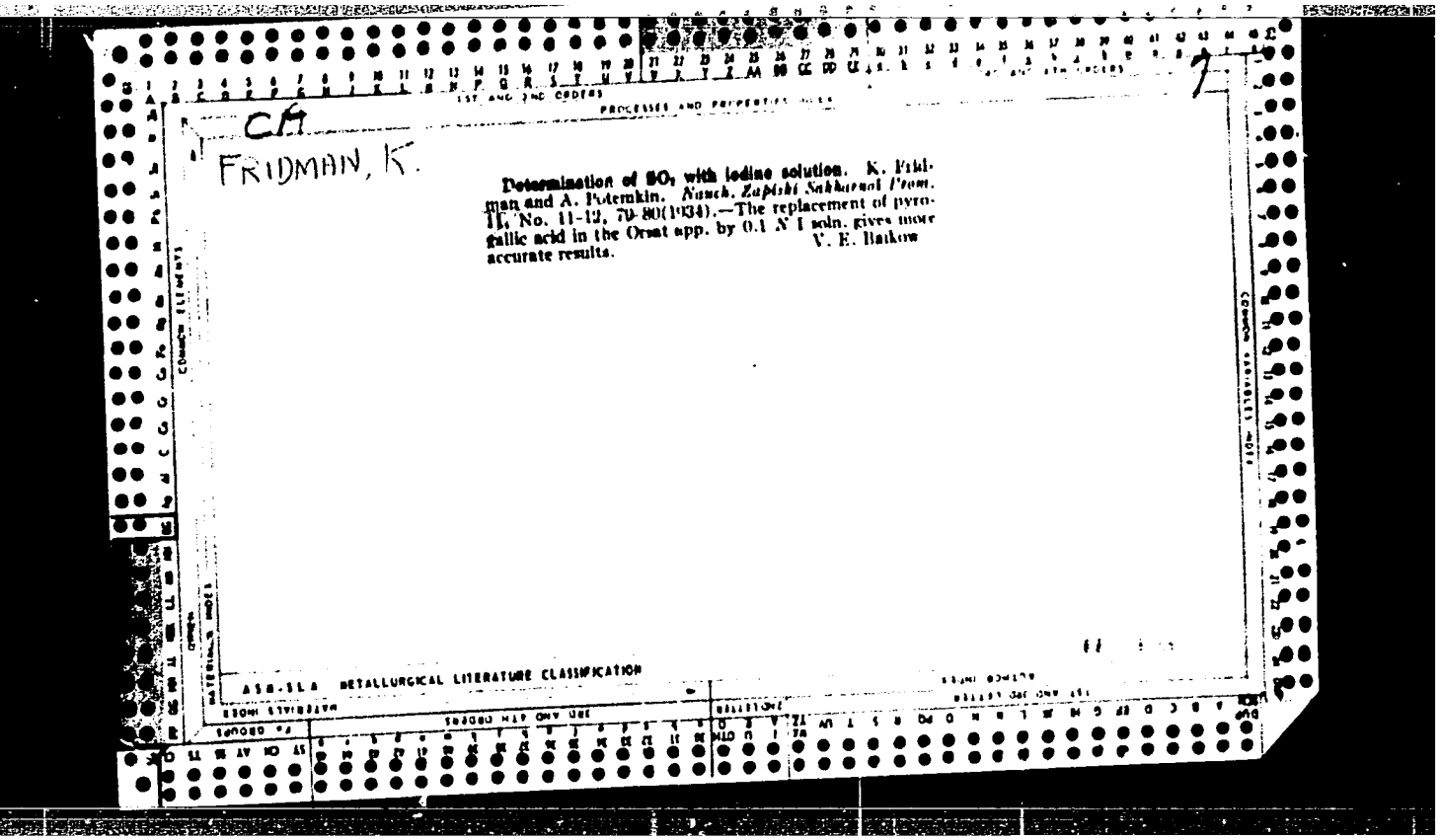
Paper presented at Conference on Dimensioning and Strength Calculation, Budapest, 24-28 Oct 61

FRIDMAN, I. V.

"Kinetics of Deformation and Fracture."
Report submitted for the Con ference on Design and
Strength Analysis, Hungarian Acad. Sci, Oct. 1961.

STROGOV, N.I., redaktor; FRIDMAN, I.Ye., redaktor; MEDRISH, D.M., tekhnicheskiy redaktor.

[Work practice of the Moscow-Shcherbakov department store] Iz opyta raboty Moskovsko-Shcherbakovskogo univermaga. Moskva, Gos.torgovoe izd-vo, 1953. 46 p. [Microfilm] (MLRA 9:6)
(Moscow--Department stores)



CA

FRIDMAN, K.

Determination of SO_2 with iodine solution. K. Fridman and A. Potemkin. *Nauch. Zapiski Sakharnoi Prom.* II, No. 11-12, 70-80(1934).—The replacement of pyrotallic acid in the Orsat app. by 0.1 *N* I soln. gives more accurate results. V. E. Ilaikow

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

FRIDMAN, K.

Determining the sensitivity of a balance having equal arms. p. 39

Optical inside calipers. p. 43

RATSIONALIZATSIIA. Vol. 6, No. 4, Apr. 1956

So. East European Accessions List Vol. 5, No. 9 September, 1956

FRIDMAN, K.

FRIDMAN, K. Testing problems of movable and stationary unequal-arm scales by the calibration method. p. 44. Vol. 6, no. 7, July 1956. RATSIONALIZATSIA. Sofiia, Bulgaria

SOURCE: East European Accessions List (EEAL) Vol 6, No. 4--April 1957

FRIDMAN, K.

Government control of measures and measuring instruments and its importance. p. 42.

RATSIONALIZATSIYA. Vol. 6, no. 2, Feb. 1956

Sofiia, Bulgaria

SOURCE: East European Accessions List (EEAL) Library of Congress, Vol. 6, No. 1, January 1957

FRIDMAN, Karl, inzh.

New definition of the meter. Ratsionalizatsiia 13 no.5:34-37 '63.

FRIDMAN, K., inzh.

The SI system, and its advantages and problems connected with its application. Ratsionalizatsiia 13 no.8:32-35 '63.

1. Nachalnik otdel v Instituta po standartizatsiia, merki i izmeritelni uredi.

FRIEDMAN, K., Inzh.

International Conference on Weights and Measures. Rationalizatsiia 14 no.11:34-35 '64.

FRIDMAN, K., inzh.

State control of the system or type of measures and measuring instruments. Ratsionalizatsiia 14 no.6:35-38 '64

1. Institute of Standardization, Measures and Measuring Instruments.

FRIDMAN, K.I.; TURCHINA, Ye.L. [Turchyna, O.L.]

Determining copper content of metallic zinc, cadmium and lead-tin solders by means of 2,2l-bicinchoninic acid. Khim.prom. [Ukr.] no.2:74-75 Ap-Je '65.

Qualitative luminescent analysis method for determining zinc. Ibid.:75

(MIRA 18:6)

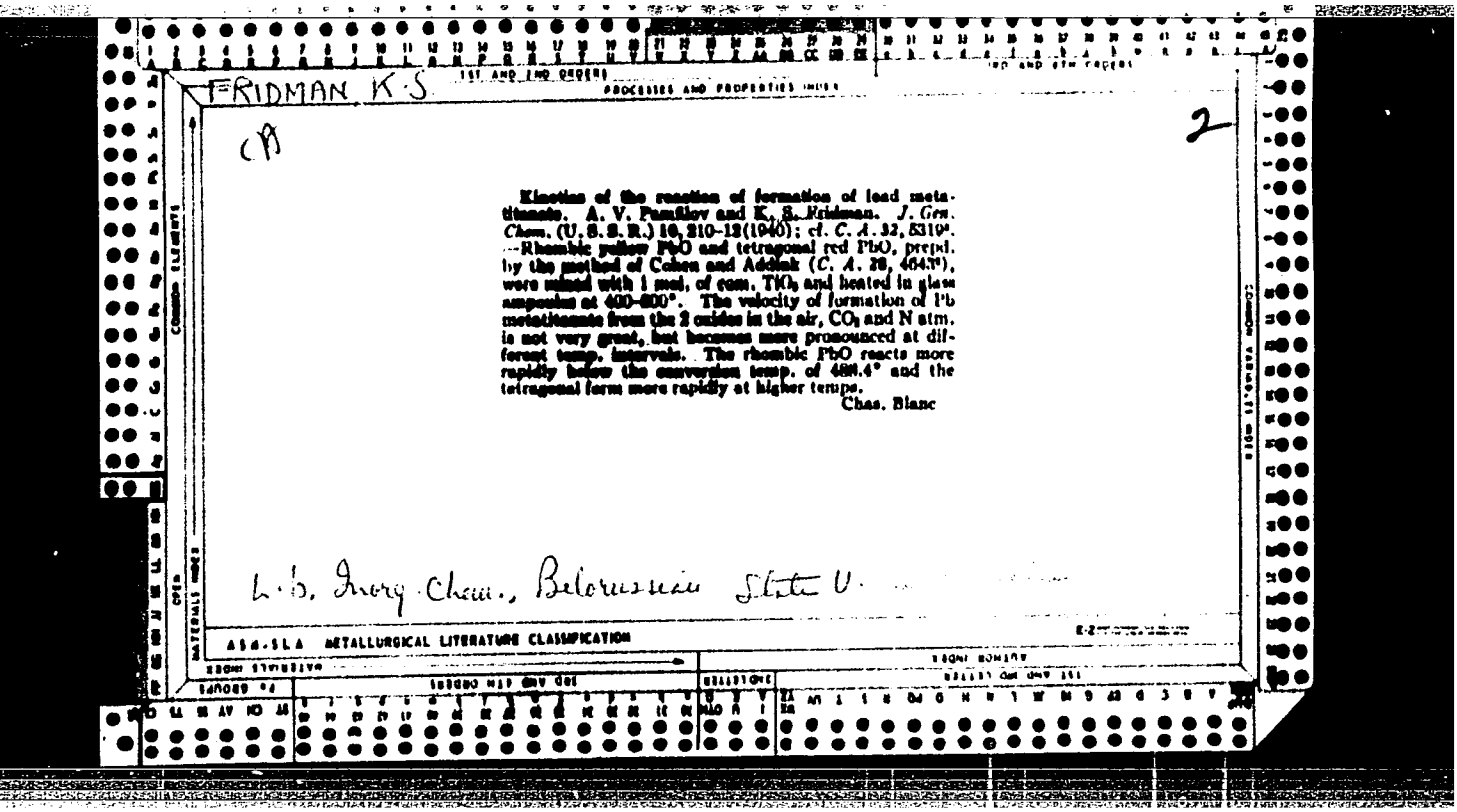
FRIDMAN, Kh.L.

Cooling and purification of converter gases. Met. i gornorud. prom. no.2:27-29 Mr-Ap '65. (MIRA 18:5)

FRIDMAN, K.M. (Bolgariya)

Using the series method for checking gauge blocks. Izm.tekh. no.7: 6-8 Jl '62. (MIRA 15:6)

(Length measurement)



FRIDMAN K.S

CA

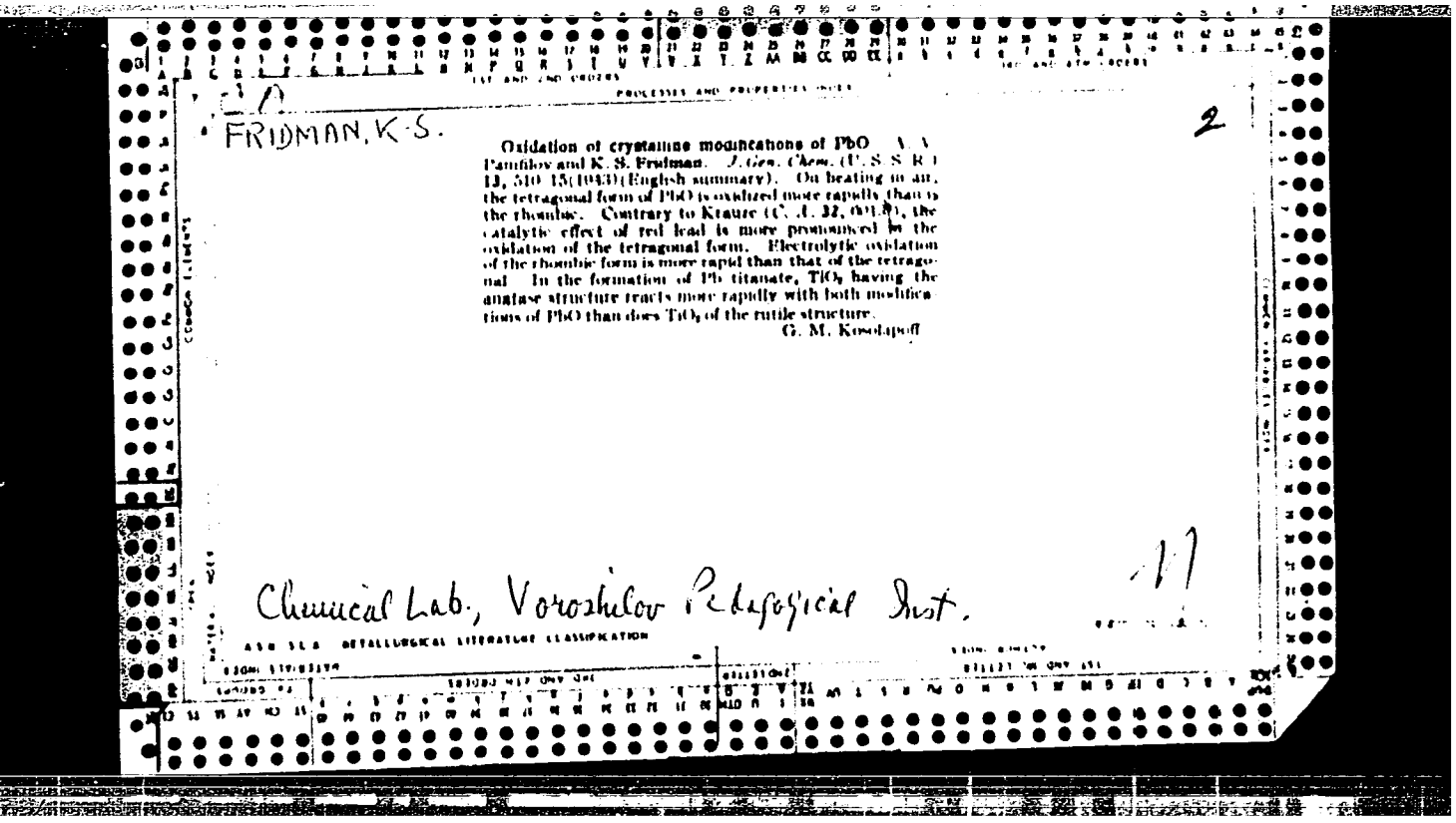
2

Kinetics of the reaction of formation of lead metatitanate. A. V. Pamfilov and K. S. Fridman. *J. Gen. Chem.* (U. S. S. R.) 10, 210–12(1940); cf. *C. A.* 32, 5310⁹. —Rhombic yellow PbO and tetragonal red PbO, prepd. by the method of Cohen and Addink (*C. A.* 28, 4647⁹), were mixed with 1 mol. of com. TiO_2 and heated in glass ampoules at 400–600°. The velocity of formation of Pb metatitanate from the 2 oxides in the air, CO_2 and N atm. is not very great, but becomes more pronounced at different temp. intervals. The rhombic PbO reacts more rapidly below the conversion temp. of 488.4° and the tetragonal form more rapidly at higher temps.

Chas. Blanc

L. S. Inorg. Chem., Belorussian State U.

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION



FRIDMAN, K.S.

2

Oxidation of crystalline modifications of PbO. V. V. Pamfilov and K. S. Fridman. *J. Gen. Chem.* (U.S.S.R.) 13, 510-15(1943)(English summary). On heating in air, the tetragonal form of PbO is oxidized more rapidly than is the rhombic. Contrary to Krauze (C. A. 32, 6915.9), the catalytic effect of red lead is more pronounced in the oxidation of the tetragonal form. Electrolytic oxidation of the rhombic form is more rapid than that of the tetragonal. In the formation of Pb titanate, TiO_2 having the anatase structure reacts more rapidly with both modifications of PbO than does TiO_2 of the rutile structure.
G. M. Kosolapoff

Chemical Lab., Voroshilov Pedagogical Inst.

11

C# FRIDMAN, K.S. 2

Solubility of diphenylamine in water. G. L. Starobinets and K. S. Fridman. *Zhur. Obshchei Khim.* (J. Gen. Chem.) 20, 219-20(1950).—By interferometric determ., the solubility at 10, 15, 20, 25, and 30°, is 1.06, 1.35, 1.75, 2.11, and 2.61 × 10^{-4} moles/liter. The expt. data fit the empirical formula $\log c = 1.5786 - (1571/T)$. N. T.

FRIDMAN, L.

22674. FRIDMAN, L. K mekhanizmu i klassifikatsii posttransfuzionnykh reaktsiy. Trudy (Tbilis. gos. med. in-t), T. V, 1948, S. 313-28 - na gruz. yaz. - rezyume na rus. yaz.

SO: LETOPIS' No. 20, 1949

AUTHOR: Fridman, L.A. 28-6-29/40

TITLE: The " ГОСТ 6641-53" Must Be Made More Exact (Utochnit' ГОСТ 6641-53)

PERIODICAL: Standartizatsiya, 1957, # 6, p 72 (USSR)

ABSTRACT: The author points out contradictory conditions concerning the quality of cotten products (kerchiefs, blankets) in " ГОСТ 6641-53"-standard which has replaced a part of the old " ГОСТ 1178-41", still in effect for the corresponding woolen products.

AVAILAVLE: Library of Congress

Card 1/1 1. Industry-USSR 2. Cotton-Products--Standards

FRANTSEVICH, V.M.; FRIDMAN, L.A.

Device for the rapid reading of static hysteresis loops. Fiz. met. i metalloved. 16 no.2:316-318 Ag '63. (MIRA 16:8)

1. Institut fiziki metallov AN SSSR.
(Hysteresis) (Magnetometer)

ACCESSION NR: AP4039228 S/0064/64/000/005/0339/0344

AUTHORS: Fedorenko, N.P.; Braginskiy, O.B.; Fridman, L.A.; Shchukin, Ye.P.

TITLE: Economic efficiency of the pyrolysis of low octane gasolines

SOURCE: Khimicheskaya promy*shlennost', no. 5, 1964, 339-344

TOPIC TAGS: low octane gasoline, pyrolysis, high octane gasoline, aromatic hydrocarbon, naphthalene, naphthene, liquid pyrolysate, liquid hydrocarbon pyrolysis, production cost, petrochemical, chemical intermediate, hydrogenation, absorption oil, plasticizer

ABSTRACT: Work in various scientific institutes and experimental industrial laboratories had shown the low octane gasoline fraction to be the most valuable liquid petrochemical crude--in its chemical processing there are obtained a series of intermediates including divinyl and aromatic hydrocarbons in addition to ethylene and propylene. Various liquid hydrocarbons obtained in the production, stabilization and processing of petroleum (gaseous gasoline fractions, condensate, directly distilled gasoline, raffinates, products from cracking and subsequent dearomatization) had been evaluated to

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ACCESSION NR: AP4039228

determine the material most suitable for pyrolysis. Processing of the liquid products from the pyrolysis of low octane gasolines yielded a predominant amount of high molecular olefinic and diolefinic hydrocarbons, about 30 weight% aromatics and about 20 weight % naphthenes. The products may be recovered by intensive processing of the pyrocondensates, or high octane gasoline products may be obtained by hydrogenation of the fraction boiling below 200C at low pressures (10-20 atm). At the NIISS (Scientific Research Institute of Synthetic Alcohols and Organic Products) calculations were made of the costs involved in processing the pyrocondensates to produce either the high octane gasoline or to obtain the aromatic hydrocarbons, resins and other products. For the latter the calculations were based on a complex scheme for most completely recovering all the pyrolysis resin components. Such a scheme, derived from various methods described in the Russian literature, involves the separation of the components in the six fractions: to 70C (mostly unsaturated C_5 hydrocarbons); 70-120C (high percent of aromatics, subjected to catalytic cracking at 3-5 atm., 400-450C, 0.5-0.75 sec^{-1} space velocity), 120-200C (unsaturated hydrocarbons for polymeric resins, to

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ACCESSION NR: AP4039228

be polymerized with diisopropylbenzene peroxide), 200-230C (naphthalene, to be recovered by methods used in the coal tar chemical industry), 230-320C (to be subjected to high temperature hydrogenation; the 200-230C fraction to be used for naphthalene recovery, the higher boiling products, as absorbtion oils), and pitch (for resin plasticizers). The calculations confirmed the suitability, from the standpoint of the national economy, of using the liquid hydrocarbons in petrochemical processing. The expenses for the recovery, preparation and distillation of the additional petroleum required to obtain the directly distilled gasoline fraction for the complex pyrolysis process are rapidly recovered. Orig. art. has: 5 tables.

ASSOCIATION: None

SUBMITTED: 00 ENCL: 00

SUB CODE: FP NR REF SOV: 008 OTHER: 006

Card 3/3

FRIDMAN, L. A.

Fridman, L. A. -- "An Investigation by Nonlinear Processes of the Magnetic Reversal in Ferroinductance Coated Absorbing Elements of Highly Sensitive Coercive Force Meters." Cand Phys-Math Sci, Ural' State U, Sverdlovsk 1953. (Referativnyy Zhurnal-Fizika, Jan 54)

SO: SUM 168, 22 July 1954

YAHUS, R.I.; FRIDMAN, L.A.; DROZHZHINA, V.I.

On the sensitivity of ferromagnetic core coercimeters. Fiz.met.i metalloved. 1 no.1:118-123 '55. (MLRA 9:3)

1. Institut fiziki metallov Ural'skogo filiala Akademii nauk SSSR.
(Magnetic measurements)

FRIDMAN, L. Sh, and DROZHZHINA, V. I.

"Fluxgate Magnetometer for Measurement of Properties of Small specimens," a paper submitted at the International Conference on Physics of Magnetic Phenomena, Sverdlovsk, 23-31 May 56.

FRIDMAN, L.A.

Distr: 3E2c

A Ferrosonde Magnetometer for Investigating the Properties of Small Specimens of Soft Magnetic Materials. V. I. Drozhzhina and L. A. Fridman (Fizika Metallov i Metallovedenie, 1956, 3, (2), 383–384).—[In Russian]. A letter describing tests on astatic and non-astatic models of "Ferrosonde" magnetometers. (See, e.g., Förster, Z. Metallkunde, 1955, 46, 297, 358; M.A., 23, 753, 924.) The probes were of Permalloy. Using them, H_c can be measured to ±0.02 Oe. on specimens ~0.1 mm thick × 3 mm wide. An individual measurement takes a few sec.—A. F. B.

4

FRIDMAN, L.A.

Category : USSR/Magnetism - Experimental Methods of Magnetism F-2

Abs Jour : Ref Zhur - Fizika, No 2, 1957, No 4017

Author : Yanus, R I , Fridman, L.A., Drachzhina, V.I.
Inst : Institute of Metal Physics, Ural Branch, Academy of Sciences, USSR
Title : Rapid Method for the Monitoring the Coercive Force of Electrotechnical Iron Sheet Metal.

Orig Pub : Zavod. laboratoriya, 1956, 21, No 10, 1193-1197

Abstract : A new instrument is described, a coercitimeter, which makes it possible to measure H_c of electrotechnical iron sheets. The measurement is carried out in a closed magnetic loop, consisting of the tested sheet, located in a solenoid and pressed tightly against the faces of two halves of a yoke, as well as of a ferro-transducer (ferro-probe), which closes the outer portion of the magnetic circuit. The process of measuring H_c consists of the following. The tested sheet is magnetized and the demagnetizing current is turned on. The demagnetizing current is x increased until the pointer of the balance indicator returns to zero; the current in the solenoid is then a measure of the

Card : 1/2

value of H_c of the measured tested sheet. It was established experimentally that there is sufficiently good correspondence between H_c and the electro-magnetic losses in the case of electrotechnical iron without grain orientation. This permits the use of the described coercitimeter for an indirect estimate of the value of the electro-magnetic losses, and consequently, also for the control of the quality of hot-rolled dynamo and transformer iron.

Fridman L. A.

USSR/General Problems - Method and Technique of Investigation A-4

Abst Journal : Referat Zhur - Fizika, No 12, 1956, 33689

Author : Frantsevich, V. M., Fridman, L. A.

Institution : None

Title : Coercivity Meter with Automatic Measurement Process

Original Periodical : Zavodskaya Laboratoriya, 1956, 22, No 5, 590-592

Abstract : None

Card 1/1

(KIDRAN, L. A.

7782* (Russian.) Self-Compensating Coercivity Meter With a Magnetic Amplifier. Avtokompensatsionnyi koertsiitmetr na osnove magnitnogo usiliteliia. L. A. Erkman and V. I. Ankudinova. *Zavodskaia Laboratoriia*, v. 22, no. 9, Sept. 1956, p. 1108-1110.

Design and operation of a coercivity meter with an automatic adjustment of the demagnetizing current.

FRIDMAN, L. A.

AUTHORS: Drozhzhina, V.I., Fridman, L. A. 48-9-23/26

TITLE/ A Magnetometer with a Ferrosounding Device for the Investigation of the Properties of Small Samples from Magnetically Soft Materials (Ferrozondnyy magnetometr dlya issledovaniya svoystv malykh obraztsov iz myagkikh magnitnykh materialov)

PERIODICAL: Izvestiya AN SSSR Seriya Fizicheskaya, 1957, Vol. 21, Nr 9,. pp. 1320-1322 (USSR)

ABSTRACT: In this paper a description is given of two magnetometers with ferro-sounding device, which have been built and tried out by the authors. They were used for the measurment of H_c (coercitive field strength) in small samples from magnetically soft materials. In this construction a differential ferro sounding device with a longitudinal excitation was used as an indicator. The first magnetometer consisted of two equal solenoids of 250 mm length and an inner diameter of 8 mm, which had been wound on copper tubes with a wall strength of 1 mm (which had an axial distance of 20 mm). One of the solenoids contained the sample. The second magnetometer was an acoustic variant. Two differential sounding field meters, which were inserted into the layout of the gradient meter, served as indicator. One of the field meters was

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A Magnetometer with a Ferrosounding Device for the Investigation of the Properties of Small Samples from Magnetically Soft Materials. 48-9-23/26

situated between the solenoids and the second one in a horizontal plane, parallel to the first one and at a distance of 130 mm from the first one, in a position, where the field of the sample is sufficiently weak. The magnetometers described here are distinguished by the simplicity of their indicator circuit. The complicated electronic layouts at the output of the ferr sounding device have been replaced by a simple symmetric, nonlinear resistance. There are 1 table, 1 figure, and 6 references, 5 of which are Slavic.

ASSOCIATION: Institute for Physics of Metals of the UFAN USSR (Institut fiziki metallov UFAN SSSR)

AVAILABLE: Library of Congress

Card 2/2

AUTHORS: Yanus, R. I., Candidate of Physical-Mathematical Sciences, Fridman, L. A., Candidate of Physical-Mathematical Sciences (Sverdlovsk) 105-58-6-20/33

TITLE: On Cases of an Incorrect Use of the Commutation-Magnetization-Curve in Approximate Calculations of Circuits With Ferromagnetics(O sluchayakh nepravil'nogo primeneniya kommutatsionnoy krivoy magnitnosti pri priblizhennykh raschetakh tsepey s ferromagnetikami)

PERIODICAL: Elektrichestvo, 1958, Nr 6, pp. 77-80 (USSR)

ABSTRACT: The term "commutation-magnetization-curve" (kommutatsionnaya krivaya magnitnosti") is deliberately used here instead of the term "fundamental magnetization-curve" ("osnovnaya krivaya namagnichivaniya") recommended in Elektrichestvo, 1957, Nr 6, p. 17 under position 92. It is pointed out that the opinion on the alleged usability of the $B_m(H_m)$-curve not only for the reading of the H_m-values according to known B_m and inversely, but also as a good (if not the best) approximation without hysteresis for the B(H)- loop not only within the domain of high but also of low induction is very widely spread. It is pointed out that the differential equations to be solved in the computation of amperage and voltage in electric circuits

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On Cases of an Incorrect Use of the Commutation-Magnetization- 105-58-6-20/33
-Curve in Approximate Calculations of Circuits With Ferromagnetics

with ferromagnetics contain the function $\mu_d(H)$ or $\mu_d(B)$ as the main characteristic of ferromagnetics. $\mu_d = dB/dH$ denotes the magnetic differential permeability. Therefore only an approximation of the B(H)-curve can be used for such computations which qualitatively correctly expresses the functions $\mu_d(H)$ and $\mu_d(B)$. From this poiht of view the approximation formula (1) given in a textbook (Ref 1) is investigated here. It is shown that the use of this formula leads to qualitative deviations. It is further shown that in contrast to the curves of magnetization, demagnetization and magnetic reversal the $B_m(H_m)$-curve does not express such processes (neither "fundamental" ones nor others). It is only the geometrical position of the peaks of magnetic-reversal-curves and any two points of the curve, infinitely near to each other themselves, belong to separate magnetic states (which are separated by entire cycles of magnetic reversal taking the course of entirely different curves). It is therefore quantitatively and qualitatively different from these curves. The denotation used at present conceals this important peculiarity of the $B_m(H_m)$-curve. Therefore it would be better to call this curve a commutation-

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or amplitude-magnetization-curve, for it only expresses a certain aspect of the magnetic properties, the magnetizability of the material. Therefore it is inexpedient to call it a "fundamental" curve.
B_m denotes the maximum induction, H_m the maximum field strength.
There are 1 figure and 7 references, 7 of which are Soviet.

SUBMITTED: October 15, 1957

1. Electric circuits--Mathematical analysis 2. Ferromagnetic materials--Electrical factors

21374
S/194/61/000/009/005/053
D209/D302

9.6130

AUTHOR: Fridman, L.A.

TITLE: Applying semiconductor rectifiers in phase-sensitive indicating circuits of ferro-probe magnetometers

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 9, 1961, 8, abstract 9 A47 (Tr. In-ta fiz. metallov. AN SSSR, 1959, no. 21, 327-333)

TEXT: A phase-sensitive indicating circuit with semiconductor rectifying elements for locating the constant component of field intensity H_o, used in instruments utilizing differential ferro-probes with longitudinal excitation, is described. The ferro-probe (see Fig) consists of two identical magneto-sensitive elements a and b having cores made of soft magnetic material with a primary 1 and a secondary 2 windings; the secondary windings are connected in opposition. The operation of the ferro-probe in this circuit is described. The e.m.f. in the indicating winding with zero con-

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